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THE ANDHRA PRADESH GAZETTE

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PART VII

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NOTIFICATIONS BY GOVERNMENT

PANCHAYAT RAJ & RURAL DEVELOPMENT DEPARTMENT (Progs.II)

INTRODUCTION OF "ANDHRA PRADESH RURAL ROADS MAINTENANCE POLICY, 2017"

[G.O.Ms.No.37, Panchayat Raj & Rural Development (Progs.II), 30th June, 2017.]

Read the following :-

From the Director (RC), Project Leader PMGSY RRP.II, Ministry of Rural Development, New Delhi letter D.O.No.P-17029/P-III/ILO, dated : 10-9-2014.

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In the reference read above, the Director (Rural Connectivity), Project Leader PMGSY RRP.II, Ministry of Rural Development, Government of India, New Delhi has stated that during the one day National Workshop on Policy on Maintenance of Rural Roads for India Stakeholders Consultation held at New Delhi on 25th January' 2014, it was decided that States are required to formulate their own Maintenance Policy for Rural Roads and requested to expedite for preparation of the Policy.

After elaborate deliberations held in the National level Advocacy Workshop on Rural Road Maintenance Policy on 15.09.2016 at India Habitat Centre, New Delhi and as per the suggestions of the International Labour Organization team who visited Andhra Pradesh State (Vijayawada) on 14.11.2016, the Engineer-in-Chief, Pnachayat Raj has submitted the Draft Policy on Maintenance of Rural Roads in Andhra Pradesh State.

The purpose for introduction of 'Andhra Pradesh Rural Roads Maintenance Policy' is to provide a guiding framework for establishing the objectives, making arrangements for and establishing sets of procedures for the maintenance and repair of rural roads in the State of Andhra Pradesh.

The Government have examined the matter and, after careful consideration, approved the "Andhra Pradesh Rural Roads Maintenance Policy, 2017" and annexed to this Order.

The Engineer-in-Chief, Panchayati Raj, Andhra Pradesh shall take further necessary action accordingly.

A Copy this Order is available on the internet and can be accessed at www.ap.gov.in/goir.



Panchayat Raj & Rural Development Department

Annexure to GO.Ms.No.37, PR&RD (Progs.II) Dept., dt:30.06.2017

The Andhra Pradesh State Rural Roads Maintenance policy, 2017

GOVERNMENT OF ANDHRA PRADESH

RURAL ROADS MAINTENANCE POLICY

1. **The Policy title:**

   (i) The policy may be called **'The Andhra Pradesh Rural Roads Maintenance Policy 2017'**

   (ii) The policy shall come into force with effect from the date on which they are published in the Official Gazette.

2. **Purpose**: The purpose of the policy is to provide a guiding framework for establishing the objectives, making arrangements for and establishing sets of procedures for the maintenance and repair of rural roads in the state of Andhra Pradesh.

3. **Introduction**: Rural roads are a fundamental requirement for providing access to habitations in rural areas. The benefits of improved access can be sustained only if there is regular maintenance on the ground. Maintenance reduces the rate of deterioration, thereby safeguarding previous investments in construction, lowers the cost of operating vehicles on the road by providing a smooth riding surface, improves safety of road users, contributes to more reliable transport services and sustains socio-economic benefits of improved road access. Maintenance ensures that the road remains serviceable throughout its design life. Lack of maintenance creates huge extra burden on financial resources and on natural resources. Therefore, the concerned agencies and organisations need to effect maintenance of rural roads in a timely and systematic manner.

4. **Objectives**: The objectives of the Policy are to enable:

   i) Safeguarding rural road asset base;

   ii) Adequate, timely and sound maintenance of rural roads to provide safe, convenient and efficient access to rural road users;

   iii) Providing need based requirement of funds for maintenance of rural roads;

   iv) Judicious and optimal utilization of available funds and resources for the maintenance and repair of the rural roads with due prioritisation;

   v) Efficient maintenance by using appropriate technology, State of the Art and effective repair treatments including new technology and equipment in rural road repair and maintenance management;

vi) Capacity building and organizational development of the manpower and agencies engaged in rural roads construction and maintenance for efficient rural road development and maintenance functions;

vii) To ensure better coordination amongst all concerned departments and also ensure quality in maintenance by having uniformity in norms and procedures pertaining to maintenance and management of the rural road network in the state.

5. Definitions: In this Policy, unless the context otherwise requires.

i) **Annual Rural Roads Maintenance Plan (ARRMP)** means the Annual Rural Roads Maintenance Plan for the rural road network under the concerned department of the State of Andhra Pradesh.

ii) **APSRRDA** means the Andhra Pradesh State Rural Road Development Agency.

iii) **Core Network of Roads** means the network of roads that connects each habitation with single all weather road, for basic access to production centres of agricultural, industrial or mining; markets; educational institutions; places of tourist interest etc. The Core network forms part of the total rural road network.

iv) **Defect** means any form of distress/ failure in the road surface including cracks, deformation & disintegrations. These types of failure can be structural or visual in nature.

v) **Fund** means Andhra Pradesh Rural Road Maintenance Fund for maintenance of State Rural Roads.

vi) **Government** means the Government of the State of Andhra Pradesh, its respective departments or any other authorities, agencies and instrumentalities functioning under the direction or control of the Government of Andhra Pradesh.

vii) **Implementing Agency** means the PRED or the concerned department or any other agency appointed by these departments.

viii) **Maintenance with respect to roads** means repairs or remedial treatment to road component failures / defects which includes routine, periodic, special repairs or emergency maintenance work excluding the works that are taken up under SDRF (State Disaster Response Fund) to keep the road up to the Standard specified by the Implementing Agency. The purpose being to make the road traffic worthy until reconstruction works can be carried out by the department.

ix) **PRED** means **Panchayat Raj Engineering Department** of Andhra Pradesh.

x) **Rural Roads** comprising Other District Roads (ODRs) and Village Roads (VRs) connecting habitations or groups of habitations and lead to the nearest higher category road.

xi) **RRMMS** means Rural Road Maintenance Management System.

xii) **SLEC** means State Level Empowered Committee constituted by the Government of Andhra Pradesh.

6. **Essential Public Service**: The Government of Andhra Pradesh declares that rural road maintenance is an essential public service.

7. **Implementing Agency**: Panchayat Raj Engineering Department or the concerned department of Government of Andhra Pradesh or any other agency appointed by these departments is responsible for implementation of this Policy. Panchayat Raj Engineering Department shall be the nodal department. The APSRRDA co-ordinates with the various departments in charge of rural roads and ensures proper delivery of maintenance programs on the ground by implementing the policy.

8. **Asset value of Rural Roads**: Rural roads represent a huge asset base. Any inadequacy in maintenance funding and implementation on the ground will result in the erosion of the asset base. PRED or the concerned department shall work out the asset value of the rural road network at the close of each financial year. The estimated replacement value of Rural Road network of PRED is worked out and is given in Table 1.

Table 1: Replacement Value of Rural Road Assets of PRED in Andhra Pradesh (Broad Assessment* as of 1 April 2016)

Sl. No.	Broad category	Length in km	Unit Cost Rs. lakh/km	Amount (Rs. Crore)
1.	BT & CC roads (incl. CD works)	23010	60.00	13806
2.	WBM roads (incl. CD works)	10614	40.00	4246
3.	Gravel roads (incl. CD works)	20831	25.00	5208
4.	Earthen Roads (incl. CD works)	23827	15.00	3574
	Total	78282		**26834**

Note: Unit cost is current cost of providing the road as per standards in the same category.

9. **Classification of Roads**: PRED shall classify the rural roads under its jurisdiction as Other District Roads (ODR), Village Roads (VR) and further identify as Core Network roads, Non-core Network roads, and further sub classify as

Through Routes, Major Rural Links and Link Routes; and other concerned departments may adopt their own classification. The total rural road network under PRED as on 01.04.2016 is given in Table 2.

Table 2: PRED rural road network classification and surface details

Classification of rural road	No. of Roads	Surface wise length (km)				
		BT & CC	WBM	Gravel	Earthen	Total
Through Route (TR)	2153	7530	1350	3011	1902	13793
Major Rural Link (MRL)	3253	5108	1979	3053	3501	13641
Link Route (LR)	27152	10372	7285	14767	18424	50848
Total	32558	23010	10614	20831	23827	78282

PRED or concerned department shall specify the quality and specifications with regard to surface and width of each class of roads along with that of the shoulders, bridges, culverts, signage, safety requirements, crossings and other relevant features or appurtenances as required for safe and efficient use of the road.

10. **Classification of Maintenance operations**: Maintenance operations may be classified into four groups:

i) **Routine maintenance** for work items such as cutting of jungles, erosion control on shoulders and slopes, repair of potholes on pavement, repairing of cracks, cleaning of side drains and CD works, repairs and painting of road furniture etc., which are required to be carried out by the maintenance Team/Agency almost round the year;

ii) **Periodic maintenance** for more extensive maintenance operations such as applying a seal or renewal coat, required to be done periodically every few years;

iii) **Special repairs/maintenance** for major restoration or upgrading of the pavement through reconstruction or application of overlays to rectify defects and structural deficiencies; and

iv) **Emergency repairs/maintenance** refers emergency conditions like collapses or severe damage of road or any other matter emergent in nature. This excludes the work of emergent nature that can be taken up under State Disaster Response Fund (SDRF).

11. **Dedicated Planning, Budgeting and Monitoring (PBM) Unit:** A dedicated Planning, Budgeting and Monitoring (PBM) Unit, in the Head Quarters of concerned departments, to be headed by a Superintending Engineer shall

be responsible for Planning, Budgeting and Monitoring of all maintenance works of the road network under the overall guidance of the Engineer in Chief/Chief Engineer of the department concerned (Pl. refer S.O.P).

12. **Annual Rural Roads Maintenance Plan:** There is a growing need to make a comprehensive road database to carry out the maintenance work in a planned and efficient way. The database will consist of road inventory details, road section inventory and road condition index (RCI) report for every rural roads in the prescribed formats approved by APSRRDA. The road condition index of each rural road will be updated once in two years by all concerned departments at regular interval. An Annual Maintenance plan should be prepared based on Road Condition Index and the prioritization of the roads as per the Road Priority Index to be finalized and these shall form part of the Standard Operating Procedures (SOP). The PRED or concerned department shall prepare an Annual Rural Road Maintenance Plan (ARRMP) covering Rural Roads under its jurisdiction with due attention to management of the whole programme, based on availability of fund for rural roads maintenance. The Plan shall be formulated by the end of February every year, for the State. It will identify the maintenance works on the rural road network, for different classes of roads within the jurisdiction of the concerned department, taking into account the condition of both the carriageway as well as off-carriageway of roads, bridges, culverts, road signs and other road appurtenances. The PRED or concerned department shall approve the ARRMP by the end of March every year. The procedure for evaluation and prioritization of maintenance works is:

i) The PRED or concerned department shall carry out evaluation of the existing road condition in terms of physical condition of both the carriageway as well as off-carriageway, through Road Condition Surveys. The road condition survey shall be conducted on a yearly basis after the monsoon season is over. The data collected shall be recorded kilometre wise.

ii) Traffic data on each road shall be collected on regular basis, as per standard procedure.

iii) Among the works identified under ARRMP the following principles shall apply for prioritization

- Prioritization with respect to classification of rural roads:

    a) The first priority shall be given to Through Routes
    b) Next priority shall be given to Major Rural links
    c) Next priority shall be given to Link Routes in Core Network
    d) Next priority shall be given to Non-Core Network Link Routes

- Prioritization with respect to category of maintenance:

  a) The first priority shall be given to the ongoing performance based or other type of maintenance contracts;
  b) Next priority shall be given to the routine maintenance of the rural road network;
  c) Next priority shall be given to special repairs for a particular stretch of road or a bridge/culvert;
  d) After the requirements at (a), (b) and (c) above are met, priority shall be given to periodic renewal/maintenance.

- Prioritization with respect to category of traffic:

  a) The first priority shall be given to the number of commercial vehicles plying roads;
  b) Next priority shall be given to motorized vehicles plying roads;
  c) Next priority shall be given to non-motorized vehicles plying roads

- 10% of the total maintenance fund shall be kept towards Emergent repair/maintenance works in addition to the work to be taken up under SDRF.

- For prioritization as above, District shall be taken as a unit.

13. **Norms for maintenance**: To work out realistic norms for maintenance of rural roads covering Routine, Periodic, Special Repairs and Emergency maintenance, a State Level Empowered Committee (SLEC) comprising technical, administrative and finance senior level officers shall be constituted by the State Government. The Committee works under the Chairmanship of Principal Secretary, Finance Department with Secretaries of Roads owning Departments & their Engineer-in-Chief/ Chief Engineers as members. The norms denote the yard stick costs for maintenance of rural roads with clear break up for routine, periodic, special repairs and emergency maintenance for earthen, gravel, WBM, BT & CC roads in different traffic and climatic conditions prevailing the State. This Committee will be authorised to review & revise norms on a bi-annual basis. The norms shall be worked out based on (i) The Rural Roads Manual (IRC:SP:20-2002), (ii) Guidelines for the Design and Construction of Cement Concrete Pavements for Rural Roads (IRC-SP:62-2014), (iii) Guidelines for the Design of flexible Pavements for Low Volume Rural Roads (IRC-SP:72-2015), (iv) Manual for Design, Construction & Maintenance of Gravel Roads (IRC-SP:77-2008) and (v) MORD – Specifications for Rural Roads (2014) (vi) Any other latest code approved by IRC for rural roads and (vii) Time to time guidelines issued by NRRDA.

14. Road User Survey:

i) The PRED or concerned department by it or appointed agency shall organize road user surveys once every three years to assess level of satisfaction of the road users and document the same in a format approved by the APSRRDA. The same format shall be made available in public domain of departmental website.

ii) The feedback received from the road users shall be taken into account in improving performance of maintenance of the road network.

15. Capacity Building:

i) PRED or concerned department shall enable capacity building of its engineers, staff and other human resources in modern technologies, project implementation, monitoring, supervision and quality testing and operational practices.

ii) APSRRDA shall support in providing outreach programmes in enhancing the training facilities for contractors in co-ordination with the Contractors Association & training providers for woman groups (National Rural Livelihood Mission) and for youth (National Skill Development Programme) to develop cadre of dedicated maintenance workers and entrepreneurs.

16. Budget and Financial Resources:

Annual Budget for maintenance of rural roads will be estimated by the all rural road owning department as per the norms finalised by the State Level Empowered Committee (SLEC). The concerned department will project their budget requirement every year to the Finance Department.

The State Government will make necessary provision in the State Budget for each of Department taking into consideration of annual maintenance requirement worked out by the departments based on maintenance norms. While making provision in the budget, it is to be taken into consideration that the budget provision covers at least to maintain the previous year asset value of rural roads of the State.

The State Level Empowered Committee (SLEC) finalizes annual allocation of funds for maintenance of different categories of roads with appropriate share for rural roads based on the percentage of rural roads with respect to the total road network. While deciding the distribution of funds due consideration shall be given to the average traffic plying on different categories of roads,

their importance and the initial investments made in the construction of these roads.

Keeping in view of the above requirement,

i) There shall be established a dedicated fund to be known as Andhra Pradesh Rural Road Maintenance Fund (the Fund) to provide funds on a sustainable and dependable basis for maintenance of rural roads.

ii) The Fund may consist of all or any of the following:

a) The allocation for maintenance of rural roads from the Consolidated Fund of the State under the Non-Plan Head or any other Head as prescribed by the Government.

b) The allocation for maintenance of rural roads from the money received from the Central Road Fund as prescribed by the Government.

c) All money received for maintenance of rural roads of the state as per the central grants recommended/awarded by the Finance Commission from time to time;

d) Any other sum or grant as may be decided from time to time for the purpose of road maintenance by the Government;

e) Any grant, aid, bequest, donation, gift, subscription, loan or other sum lawfully received by the PRED;

f) Any other income accruing to the Fund including by way of investments or interest accruing from Fund balances.

iii) The amounts allocated for the Fund shall be deposited in to a Schedule Bank.

iv) The annual allocation shall be based on Annual Rural Road Maintenance Plan (ARRMP).

v) In case amounts allocated for the Fund remain un-committed or unspent at the end of any financial year for any reason whatsoever, then such amounts shall continue to vest with the Fund and shall be available for utilization in the following financial year.

17. Management of the Fund:

i) The Fund shall be administered and managed in accordance with the objectives of the Fund and the Rules listed hereunder in Point (ii).

ii) The Fund shall be utilized or applied for:

a) As per ARRMP, maintenance of Rural Roads within the jurisdiction of the PRED or concerned department;

b) Operating expenses, including equipment, associated with execution of the duties and responsibilities of the APSRRDA or PRED or concerned department;

c) Maintaining the office of the APSRRDA or PRED or concerned department for carrying out the tasks entrusted to it by the Government;

d) Making payment to consultants and/or experts appointed by and on behalf of the APSRRDA or PRED or concerned department or the Government for providing advice and assistance in discharge of their functions;

e) Incurring expenditure for collection of toll fees from rural road user through necessary infrastructure and its operation;

f) Incurring expenditure on such emergency maintenance works on State Rural Roads excluding the work that can be taken up under SDRF.

g) To provide road safety infrastructure, signage and equipment;

h) Providing support to the Government in provision of weigh bridges and other facilities for overload control of vehicles on State Rural Roads as the APSRRDA or PRED or concerned department may determine;

i) Expenditure on research, education and training related to the maintenance of State Rural Roads as the APSRRDA or PRED or concerned department may determine;

j) Meeting all expenses, costs and charges including fees payable to the Auditors; and

k) Making any other payment related to road maintenance authorized by the APSRRDA or PRED or concerned department.

18. **Exploration for additional financial resources:** Sources for additional Revenue generation shall be as under:

- Additional tax on hotel industry (cess on luxury tax etc) and/or;
- Additional cess on transport of Agriculture produce and/or;
- Rs. 1/- per bottle sale of liquor in the state and/or;
- Increase in toll rates and/or;
- Additional taxes on transport of minerals/industrial produce in the state and/or;
- Additional levy on Vehicle Registration and/or;
- Additional levies on companies putting hoardings/advertisements by the side of roads and/or;
- Contribution by major industries towards Corporate Social Responsibility (CSR) to be used partly for maintenance of road assets and/or;
- Cess or charges imposed on road users for laying utility services like cables for phone connectivity etc. and/or;
- District Mineral Fund – this fund being collected by the District collectors can be partially used for maintenance of rural road assets and/or;
- Regulated Marketing Cess (RMC) – A part of this Cess can be dedicated for maintenance of the rural road infrastructure and/or;
- Convergence with MGNREGA.

The Government shall issue necessary orders for additional revenue generation out of the above sources as and when required, based on the recommendation of State Level Empowered Committee.

19. **Plan for time bound removal of maintenance backlog:** Each concerned department shall formulate an Action Plan for time bound removal of maintenance backlog of rural roads network that the network is brought to an acceptable level of service. The road condition data and the report generated through the proposed road maintenance management system shall be used to identify the backlog and remove the same in a period of five years in a phased manner and funds for the same shall be made available.

20. **Performance Evaluation System:** Each Department shall institute an annual performance evaluation system to inform the Government about the delivery of maintenance and the resultant condition of the rural road network as a result of funds allocated. Some of the performance indicators may be as under:

i. Percentage of the rural road network that received routine maintenance.
ii. Percentage of core road network and non-core roads actually subjected to periodic maintenance.
iii. Percentage of core road network in good condition.
iv. Unit cost of routine and periodic maintenance.
v. Percentage of the maintenance expenditure compared to the amount required as per norms.

21. **Dealing with Emergencies:** Each Department shall set up a Special Task Force in each district of the state to deal with any emergency situation arising due to natural disasters. Such Task Force shall be headed by the Superintending Engineer of the Circle and concerned field Executive Engineers as Members.

22. **Adoption of Innovative Contracting and Materials**: The concerned department shall identify and pilot innovative maintenance models and technologies. These innovations shall be in the form of piloting and adopting different models of outsourcing maintenance works which could be in the form of Performance Based Maintenance Contracting (PBMC), Community Contracting or a Hybrid system involving combination of PBMC and conventional contracting method or zonal contracting. The Self Help Groups are to be encouraged in taking up off-carriageway maintenance. The thrust on innovative technologies shall be on materials that can be used in all weather conditions, reduce time and manpower required for repairs thereby improving productivity. The technology shall be cost effective, easy to manage, off the shelf material for patch/ pothole repair and application with simple tools with all maintenance items being accommodated in a small vehicle (i.e., road mobile maintenance unit – ***road ambulance***) for speedy execution. The cold-mix technology shall be encouraged for black topping in general; and shall be used in hilly areas and other environmentally critical areas.

23. **Enhancing Safety through Maintenance**: High priority needs to be accorded to ensuring maintenance of all safety features provided on the road. Particular attention needs to be paid to the following:
i. Providing lane marking with white paint to all the rural roads.
ii. Maintaining functionality of road signs, pavement markings and other traffic control and cautionary signs so that they are clearly visible from a distance.
iii. Taking corrective measures at locations where sight distance is seen to be compromised.
iv. Ensuring that the road remains open to movement of traffic at all times as far as possible.

24. Environmental Sustainability:

i) In development of construction and maintenance of road schemes in rural areas, its supporting infrastructure, appurtenances, safety features etc, the Department shall make best possible efforts to implement technologies that are environmental friendly, have a low carbon footprint and provide smooth access to all sections of society, including the disabled, in a safe manner.

ii) The Department shall amend/develop necessary Codes and Manuals based on a template to be circulated by NRRDA to implement construction and maintenance of rural roads in an environmental and disabled friendly manner also put into place assessment methodologies to evaluate the environment and disabled friendliness and safety of various types and classes of roads. The Department shall also devise a safety code for roads servicing schools, colleges, hospitals and other crowded areas. The Department may take guidance of NRRDA in this regard.

25. Accounts and Audit:

i) The PRED or concerned department shall keep proper books and other records of account in respect of the fund in accordance with the accounting principle and standard norms and as may be prescribed by the Government.

ii) The accounts of the fund shall be audited annually by the Statutory Auditor of the PRED or concerned department who shall also confirm, inter alia, whether:

a) The revenues allocated to the fund have been correctly collected and paid into the Fund; and.

b) The money from the fund has been utilized correctly in the manner as provided in Clause 17.

iii) The Auditor shall complete the audit within six months of expiry of the financial year in which the audit is done and shall send to the PRED or concerned department, the audited financial Accounts & Balance Sheet with a copy thereof to the Government.

iv) The PRED or concerned department may engage internal auditor/concurrent auditors for the interim and concurrent audit as it deems fit.

v) The accounts of the PRED or concerned department shall also be audited by the Comptroller and Auditor General (CAG) of India. The CAG shall, as soon as possible after completion of the Audit, send to the PRED or concerned department a Separate Audit Report (SAR) with a copy thereof to the Government, who shall place the same before the state Legislature.

26. **Implementation of Rural Road Maintenance Policy:** Detailed guidelines for execution of maintenance policy will be finalised by concerned Department. The essential methods & procedures to assist in implementation of Annual Maintenance Plans have been incorporated in these guidelines and attached as *(Standard Operating Procedures for Maintenance of Rural Network).* The objectives & expectations from the maintenance work, utilization of resources, responsibilities & functions of staff at different level, procedures for contract management, quality assurance, technical specifications, maximum response time have been explained in these guidelines.

27. **Interpretation:** If any question arises relating to the implementation of the policy, the same shall be referred to the State Government for its decision; which shall be final. The decision of the State Government shall be implemented.

28. **Provision for amendments to policy**: The State Government shall have power to make amendments from time to time based on the experiences gained with the passage of time, for removal of the shortcomings and better implementation of the policy.

STANDARD OPERATING PROCEDURES
FOR

MAINTENANCE OF RURAL ROAD NETWORK IN ANDHRA PRADESH

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CHAPTER – 1 INTRODUCTION

1.1.1 Roads occupy a dominant position in the transportation system of Andhra Pradesh. It is considered, an infrastructure is critical to economic growth and social development. Maintaining the roads in serviceable condition is crucial to the agricultural and industrial growth on the one hand and affording means of access on a sustainable basis to our population to social facilities such as schools, health centers as well as markets on the other hand.

1.1.2 The continued extension and improvement of the road network does however create new and growing challenges in terms of an increasing maintenance burden. In order to sustain the benefits of the investments made in building and improving roads, there is a need to boost capacity in terms of providing adequate maintenance.

1.1.3 The fact that the road network is maturing as a result of reaching the desired coverage of the population, more emphasis needs to be placed on the maintenance of already existing infrastructure assets. This implies that an increasing proportion of funding and technical and managerial capacity need to be allocated to protecting the investments made earlier in building the road network.

1.1.4 From a technical point of view, there is no shortage of technical guidance on how the works should be carried out. The challenge seems to be more related to how maintenance should be organised and when it should be carried out. There is, however, a need to define requirements at operational level which ensure that technical means are secured in order to actually carry out the required maintenance. Therefore, it has been felt necessary to put in place Standard Operating Procedures for maintenance of the roads at operational level for securing adequate and timely maintenance of the rural road network.

CHAPTER – 2 STAFFING

2.1 Organisational Setup

2.1.1 Andhra Pradesh Panchayat Raj Engineering Department and the concerned Departments shall be responsible for the operation and maintenance of the entire road network under their jurisdiction. The administrative control of the department shall wrest with the Principal Secretary/Secretary to the Government of Andhra Pradesh. The Engineer-in-Chief/ Chief Engineer would be overall in charge of the department. The construction and maintenance of the network shall be supervised by the Superintending Engineers who have control over the field Circle. These circles are further divided into field Divisions each headed by an Executive Engineer. Similarly, these field divisions have a number of sub divisions under them each headed by a Deputy Executive Engineer. The Deputy Executive Engineers are assisted by a number of Assistant Executive Engineers/ Assistant Engineers each of whom is in charge of a section.

2.1.2 A dedicated Planning, Budgeting and Monitoring (PBM) Unit in the Head Quarters to be headed by a Superintending Engineer shall be responsible for Planning, Budgeting and Monitoring of all maintenance works of the road network under the overall guidance of the Engineer-in-Chief/ Chief Engineer. This unit shall comprise of one Executive Engineer, two Deputy Executive Engineers, two Assistant Executive Engineers/ Assistant Engineers, one Draftsman and two Computer Operators. The Deputy Controller (F&A) shall assist the Superintending Engineer of the PBM Unit in all financial matters.

2.1.3 Technical audit of sample stretches as well as the quality inspections shall be conducted by the Quality Control wing of the concerned Department.

CHAPTER – 3 PLANNING AND DESIGN

3.1.1 Maintenance Works will include all works of routine maintenance, periodic maintenance, road rehabilitation including pavement strengthening, special repairs and emergency maintenances.

3.1.2 The **PBM Unit** shall initiate action on maintenance activities as under:

(i) Exercise for **review of Yardstick Norms for routine maintenance** shall commence in October every year and the process completed by 30th November. The norms as finalized shall be notified by 31st December and shall be applicable for the next financial year beginning 1st April. Even in case the norms do not require any change the extant norms shall again be notified by this date.

(ii) A yearly **review of the rates of individual items** involved in maintenance activities shall be carried out by considering the prevailing market rates as on 1st October of that year and the review shall be completed by 30th November. The rates so finalized shall be notified by 31st December.

3.1.3 A Periodic Renewal cycle of 5 years or an appropriate cycle time shall be adopted for roads.

3.1.4 The Specifications to be adopted shall be Andhra Pradesh Detailed Standard Specifications (APDSS) and Ministry of Rural Development (MoRD) Specifications. In case specifications for a particular item in APDSS are not available, MoRD specifications for Rural Roads shall be followed and vice-versa. In case specifications for a particular item are not available in both APDSS and MoRD specifications, MoRTH specifications can be followed.

3.1.5 The Field Units, namely, the Divisions shall be responsible for carrying out the Road Inventory and Road Condition Surveys as per prescribed procedures.

3.1.6 The road condition data survey at every 100 m interval shall be carried out by the Assistant Executive Engineers/ Assistant Engineers in charge of the respective sections. Their work shall be supervised by their Deputy Executive Engineers and physically checked to the extent of 15% and accordingly certified. The road condition data shall be collected through visual inspection. The Executive Engineers shall simultaneously carryout 5% test check of the road condition data collected by the field units.

The schedule for the above activities shall be as under:

(i) The surveys shall commence immediately after the cessation of monsoons in October and completed by 15th November.

(ii) Data from the survey shall be uploaded on the Rural Road Maintenance Management System (RRMMS)/Road Management System (RMS) by the Divisional Offices by 1st week of December.

(iii) Results of the entire road network shall be generated by the PBM Unit staff by 31st December.

3.1.7 The concerned department's HQ shall finalize the priority list for Annual Maintenance Plan (AMP) and disseminate the same to all field offices by 15th January. The field Executive Engineers on receipt of the approved AMP shall have another verification carried out to confirm that the roads appearing in the AMP with respect to their jurisdiction actually qualify for Routine maintenance / Periodic maintenance and revert back to the HQ by 31st January with full justification in case any substitution is required.

3.1.8 Field offices shall initiate action for preparing estimates and inviting bids for works proposed to be contracted out for the approved chainages of various roads immediately and works shall be awarded by 25th March.

3.1.9 Implementation shall commence by 1st April.

3.1.10 The Annual Calendar of Road Maintenance Activities shall be as given in Table 1.

Table 1

ANNUAL CALENDER OF ROAD MAINTENANCE ACTIVITIES

Sr. No.	**Item of Work**	**Intervention Standard**	**Response Time**	**Frequency**	**Remarks**
1	**2**	**3**	**4**	**5**	**6**
1.	**Clearing/de-silting of road side drain/gutter**				
	Water diverted out of drain onto roadway	Causing a hazard to traffic	Immediate	As and when required	
	Obstruction or Siltation impeding flow	Blocked by more than one-fourth of the size of the drain	14 days and prior to monsoon	Twice i) May and June ii) August and September and as and when required i.e. blockade more than one-fourth.	
2.	**Pothole Filling**				
	Collection of patch repair material for Bituminous roads			i) January and February ii) July and September	
	Collection of patch			i) January and	

	repair material for WBM repair			February ii) July & August	
	Pothole filling in Bituminous and rigid pavement with maximum dimension more than 200mm, cracks, edge breaks, ruts and depressions	All potholes ≤75mm depth Cracks >5mm in width Edge Breaks >150mm in width Ruts >50mm in depth Depressions >50mm in depth	21 days	Immediate on their occurrence	
	Pothole filling in WBM with maximum dimension >200mm	Depth > 75mm	21 days		
	Pothole filling in Gravel/ Katcha surface	Depth >50mm Width >300mm	45 days		
3.	**Filling edges of bituminous surfaces and replenishing/ lowering earthen/ hard shoulders**	Difference more than (-) 50mm/ (+) 0mm		Before and after monsoons and as and when required i. e. when the requirements as specified are exceeded as per Col. 3	
4.	**Dressing of berms**			Before and after monsoon and once in between i.e. February/ March, June, August and September	
5.	**Restoration of rain cuts and side slopes**			September and as and when required	
6.	**Cleaning of Cross-Drainages**				

	Debris and silt reducing effectiveness of structure, broken or cracked structure causing instability, under mining or not functioning properly	Blocked by more than one-fourth of the size of the culvert opening	14 days	Twice (May and October) and as and when required i.e. blockade more than one-fourth of the opening	
	Deformation of culvert, its invert and alignment		45 days and prior to monsoon		
7.	**White washing of Parapets, Guide Stones, Tree Trunks etc.**			Twice (April and October)	
8.	**Re-fixing disturbed caution boards, other signage etc.**			As and when required	
9.	**Re-fixing displaced KM stones, 200m stones, guard stones, guard rails**			As and when required	
10.	**Cutting of branches of trees, pruning shrubs**			Once (October)	
11.	**Removing wild seasonal growth on berms and from road side structures**			Twice (March and September)	
12.	**Painting of KM stones, Numbering of culverts, Road markings etc. including history of road on KM stones**			Once (April/ November)	
13.	**Maintenance of T & P**	All round the year			
14.	**Removal of encroachment**	All round the year			

3.1.11 The Superintending Engineers in charge of field circles and the Executive Engineers in charge of divisions shall closely monitor the progress of the above activities in respect of their jurisdictions.

3.1.12 The Assistant Executive Engineer/ Assistant Engineer shall prepare monthly Maintenance Plan of the roads and forward it to the Deputy Executive Engineer one week before the commencement of the respective month for approval.

CHAPTER – 4 INSPECTION

4.1 Duties

4.1.1 Attention of all officers/officials of the Department is drawn to the imperative necessity for the maintenance of the roads under their jurisdiction. In order to maintain the roads efficiently and economically, officers/officials in charge of the roads must exercise the greatest care to see that money and materials are used to the best advantage. To achieve this, frequent inspections are necessary and in this connection, the following broad principles are laid down:

(i) The Assistant Executive Engineer/ Assistant Engineer in charge shall inspect the entire road length under his jurisdiction at least once every 10 days.

(ii) The Deputy Executive Engineer in charge of the road shall ordinarily travel at the rate of 30 km per day and inspect the entire length under his jurisdiction at least once every month. He shall invariably be accompanied by the Assistant Executive Engineer/ Assistant Engineer in charge to whom he can give the necessary directions for repairs.

(iii) The Executive Engineer shall also arrange to travel only moderate distance each day and shall be accompanied by the Deputy Executive Engineer in charge. He shall inspect all the roads under his jurisdiction once every three months.

(iv) The Superintending Engineer shall, whenever possible, be accompanied by the Executive Engineer. He shall plan his visit through alternate routes rather than following only the regular and direct route while going on/coming back from tour. This is necessary to ensure that alternate routes/interior roads get inspected even when the purpose/destination for the tour may be different. It may, therefore, be ensured that the officer does not undertake to and fro journey through the same route. He shall travel on alternate route on one of the journey.

(v) Every effort should be made to issue instructions verbally and with personnel consultation supplemented by notes in the inspection register of the section. This procedure will save time in writing long inspection notes.

(vi) Superintending Engineer should be able to supplement the notes given in the inspection register with more precise orders.

(vii) From the point of view of safety of traffic as well as from the point of view of safety of road structures, it is essential to pay special attention to the maintenance of road berms. The Inspecting officers should make special note of the condition of the berms and their improvement since last inspection and record the same in the inspection register of the section.

(viii) The Superintending Engineer shall also inspect the roads from overall road safety considerations and give appropriate directions.

4.1.2 Duties of Assistant Executive Engineer/ Assistant Engineers

(i) Inspection and supervision of works as per prescribed norms;
(ii) Recording the progress of both casual and regular labour in the Measurement Book (MB) and ensuring that the output of labour matches with the norms for task for labour;
(iii) Progress of all activities be recorded in MB and no activity be entered as 'unsusceptible to measurement';
(iv) Reporting observations to higher authorities;
(v) Preparing estimates for repairs after conducting condition survey of roads;
(vi) Reporting about closure of road/obstructions due to any of the following reasons;
(a) Over toping/breach
(b) Land slides
(c) Earth quakes
(d) Accident
(e) Erosion in coastal areas
(f) Any other reason (specify)
(vii) Arranging for removal of obstructions such as dead animals, trees and other debris lying on road;
(viii) Enumerating safety measures and restoration works in case of flood damages and breaches and reports on opening of traffic/completion of restoration.

4.1.3 Duties of Deputy Executive Engineers

(i) Inspection and supervision of works as per norms;
(ii) Reporting observations which suggestion for remedial action to higher authorities;
(iii) Getting estimate prepared and checked after conducting surveys and site investigations;
(iv) Reporting about heavy rain fall in the area and consequent rain damage;
(v) Enumerating action on the report of Engineering subordinates regarding obstructions, accidents etc.;
(vi) Enumerating safety measures and restoration of (both temporary and permanent) works in case of flood damages and breaches.

4.1.4 Duties of Executive Engineers

(i) Inspection and recording of observations as per prescribed norms;
(ii) Planning and finalization of nature of maintenance activities e.g. surface repair, prepare to CD works etc.;
(iii) Arranging men, materials and machinery in advance as per requirements;

(iv) Finalizing action on reports of Deputy Executive Engineers and also on safety measures, diversion in case of breaches and flood damages;

(v) Coordination with various agencies like Traffic Police, Local Administration, Publicity Media etc., in case of emergent repair, interruption to traffic by road blockage, etc.;

(vi) Initiate steps for finalizing permanent restoration works.

4.2 Action to be taken in case the road is Breached or Blocked

4.2.1 Action to be taken by the Assistant Executive Engineer/ Assistant Engineer

(a) He will at once visit the site of the hazard and shall ensure that:
- (i) Road has been closed by means of barricading with empty drums or any other means available at site;
- (ii) That caution and diversion boards have been fixed on both sides;
- (iii) Arrangements made to guide the traffic by posting gang men having red flags;
- (iv) Arrangements made for red lights and chowkidar etc.;
- (v) Steps to stop further damage to the road are taken as per site requirement;
- (vi) Possibilities of construction of diversion to be explored. If possible the diversion should be constructed with available resources.

(b) He shall immediately report to the Deputy Executive Engineer, Executive Engineer and Superintending Engineer regarding the road breach, duration of blockade of the traffic followed by a detailed report containing:
- (i) Name of the road
- (ii) Location of the breach/blockade
- (iii) Length and average depth of the breach
- (iv) Date and time of occurrence
- (v) Duration of suspension of traffic
- (vi) Requirement of men and material for restoration of traffic and road and the approximate cost

(c) All arrangements and efforts shall be made for restoration of traffic;

(d) He will intimate the details of any losses and injuries to the public, if any, including the extent of compensation if payable.

4.2.2 Action to be taken by the Deputy Executive Engineer

(a) He shall at once inspect the site of the hazard;

(b) He shall inspect all safety measures taken by the Assistant Executive Engineer/ Assistant Engineer;

(c) He shall ensure that the restoration of traffic is done at the earliest;

(d) He shall send a detailed report regarding the breach/blockade enumerating all the points given under 4.2.1 (b) above. In addition to these he will also include the following points:
(i) The causes of the breach/blockade
(ii) Forecast estimate for restoration of traffic and road
(iii) Remedial measures to avoid any future occurrence with forecast estimates
(iv) Any other information which he wants to include.

4.2.3 Action to be taken by the Executive Engineer

(a) He shall at once visit the site of breach. In case of multiple occurrences, he will inspect them in order of priority and importance;

(b) He shall ensure speedy restoration of traffic;

(c) He shall send a detailed report to the Superintending Engineer and Chief Engineer about the road damage indicating:
(i) Nature and cause of damage with location
(ii) Proposals for remedial measures with financial implications
(iii) Nature and course of consequential damages to public properties etc.
(iv) Action taken for restoration of traffic and restoration of damages with financial implications;

(d) He shall be fully responsible for all the action taken for the protection and safety of traffic and road.

CHAPTER – 5 EXECUTION OF MAINTENANCE OPERATIONS

5.1 Safety of Workers and Road Users during Maintenance

(i) In the implementation of maintenance operations, the road user and personnel involved in the work shall not be exposed to hazards. Besides, delay and inconvenience to the traffic should be reduced to the minimum.

(ii) Traffic hazard and inconvenience be minimized by use of temporary road signs and controlling/guiding of the traffic.

(iii) Maintenance operations should at a time be confined to small lengths say 30 m in half the pavement width, leaving the other half for use by traffic.

5.2 Output of labour

The recommended tasks for labour are given as under:

Table-2

Sr. No.	Task	Norms
1.	Earth work such as in berms, de-silting of drains etc.	
	(a) Ordinary soil	2.5 Cum/person/day
	(b) Hard soil	1.75 Cum/person/day
2.	Dressing of berms	75 Sqm/person/day
3.	Jungle clearance	100 Sqm/Person/Day
4.	Patching with premix carpet	0.75 Cum/Person/Day
5.	WBM patching	0.30 Cum/Person/Day
6.	Blinding of WBM surface	150 Sqm/Person/Day
7.	Edge covering	60 m/Person/Day
8.	Side slope/shoulder repair	2.0 Cum/Person/Day
9.	Maintenance of drains	125 RM/Person/Day
10.	White washing of parapets, tree trunks, breast walls etc.	30 Sqm/Person/Day
11.	Other items as per norms worked out from Schedule of Rates (SOR)	

Note: The quantity mentioned is that of grit and blast used for patch repairs.

5.3 Material Procurement

(i) Material used for maintenance of paved roads is bitumen/emulsion and aggregate.

(ii) Bitumen/emulsion shall be procured and stored centrally as well as cement required for other repairs.

(iii) Aggregate and sand shall be collected at site of work as per requirement.

(iv) The procurement of above materials shall be made as per the Annual Calendar of Road Maintenance Activities shown elsewhere in this document.

5.4 Mechanical Equipment

(i) Arrangement for mechanical equipment such as road roller, Mini Hot Mix Plant, if proposed, to be deployed shall be made well in time keeping in view the Annual Calendar of Road Maintenance Activities.

5.5 Tools and Plants

(i) The requirements of tools and plants in good condition for one gang for 20 km beat having 5 Gang men and one Mate shall normally be as shown in Table-3:

Table-3

Sr. No.	Item	Essential Quantity (With Gangs) (Nos.)	Option with AEE/ AE in-charge (Nos.)
1.	Spades	3	
2.	Pan (parat)	3	
3.	Pick Axes	2	
4.	Axe	1	
5.	Wheel barrow	3	
6.	Tar Sprinklers (Jharnas)		1
7.	Tar Buckets		1
8.	Tar boiler (mini)		1
9.	Brushes		
	(a) Wire	5	
	(b) Coir	5	
	(c) Hair	5	
10.	Hammer	1	
11.	Rope		
	12 mm	1	
	6 mm	1	
12.	Cross Slope Template for berms (camber 3 percent)	1	
13.	Tar thermometer		4
14.	Spring Balance		1
15.	Tape 15 m	1	
16.	Measuring wooden boxes (35cm x 25cm x 40cm)		2
17.	G.I. Bucket	1	
18.	Straight edge		1
19.	Caution board		2

CHAPTER – 6 MONITORING

6.1.1 In order to ensure the desired progress in terms of physical and financial targets, it is essential to keep a close watch through monitoring of returns as well as through online monitoring.

6.1.2 Superintending Engineer in charge of field circle shall ensure that there is proper monitoring of all maintenance activities. He shall monitor the physical and financial performance through quarterly returns to be submitted to him by the Executive Engineers in the format as per Table-4 (Routine Maintenance), Table-5 (Periodic Renewal) and Table-6 (Special Repairs/Flood Damage Repairs) by the 15th day of the calendar month immediately succeeding the quarter under report:

Table-4

Financial Progress of Routine Maintenance

Name of Division:						
Name of Sub- Division:						
Name of road	Length of road (km)	Budget Allotment (Rs. Lakhs)	Routine Maintenance (All in Rs. Lakhs)			Remarks
			Expenditure up to last Quarter	Expenditure during the Quarter under review	Cumulative Expenditure during the year	

Note: The Executive Engineer shall certify that financial figures given are as per the Register of Works corresponding to Works Abstract.

Table-5

Physical and Financial Progress of Periodic Maintenance

Name of Division: -

Name of Sub-Division: -

Name of Road	Job No.	Sanctioned Length (in km)	Sanctioned Amount (Rs. Lakhs)	Achievement up to last Financial Year		Target for current Financial Year		Achievement during the year up to last quarter		Achievement during the quarter	
				Physical (in km)	Financial (Rs. Lakhs)	Physical (in km)	Financial (Rs. Lakhs)	Physical (in km)	Financial (Rs. Lakhs)	Physical (in km)	Financial (Rs. Lakhs)
1	2	3	4	5	6	7	8	9	10	11	12

Cumulative Achievement during the year		Overall up to date Achievement		Likely date of Completion	Remarks
Physical (in km)	Financial (Rs. Lakhs)	Physical (in km)	Financial (Rs. Lakhs)		
13	14	15	16	17	18

Note: The Executive Engineer shall certify that financial figures given are as per the Register of Works corresponding to Works Abstract.

Table-6

Physical and Financial Progress of Special Repairs/Flood Damage Repairs

Name of Division: -

Name of Sub-Division: -

Name of Road	Job No.	Type of Repair	Sanctioned Amount (Rs. Lakhs)	Achievement up to last Financial Year		Target for current Financial Year		Achievement during the year up to last quarter		Achievement during the quarter	
				Physical (km/ %age / No.)	Financial (Rs. Lakhs)	Physical (km/%age/ No.)	Financial (Rs. Lakhs)	Physical (km/ %age / No.)	Financial (Rs. Lakhs)	Physical (km/ %age / No.)	Financial (Rs. Lakhs)
1	2	3	4	5	6	7	8	9	10	11	12

Cumulative Achievement during the year		Overall up to date Achievement		Likely date of Completion	Remarks
Physical (km/%age/ No.)	Financial (in Rs. Lakhs)	Physical (km/%age / No.)	Financial (in Rs. Lakhs)		
13	14	15	16	17	18

Note: The Executive Engineer shall certify that financial figures given are as per the Register of Works corresponding to Works Abstract.

6.1.3 The Superintending Engineer shall hold review meeting with the Divisional and Sub-Divisional officers before the 25th day of the calendar month immediately succeeding the quarter under report and send his report to the Departmental Head Quarters by the 30th day of the same month.

6.1.4 The Planning, Budgeting and Monitoring (PBM) Cell shall review the same and the comments of the head Quarter shall be communicated to the Superintending Engineers and the Executive Engineer by the 15th day of next month.

6.1.5 At Division level the Executive Engineers will review the physical and financial progress on the above analogy on a monthly basis and hold a review meeting with the Deputy Executive Engineer by the 12^{th}day of each succeeding month.

CHAPTER – 7 FINANCIAL MANAGEMENT

7.1.1 The departments dealing with rural roads shall follow the financial procedures laid down by the respective departments in respect of accounting and auditing their expenditure in conjunction with paras 17 and 25 of Policy for Maintenance of Rural Roads.

CHAPTER – 8 QUALITY ASSURANCE

8.1.1 The Quality Assurance activity, in order to be truly effective has to ensure a progressively improved and uniform quality of the finished work. Maintenance of quality has to be imbibed in the minds of the contractor as well as the officials of the department.

8.1.2 The direct responsibility for ensuring proper quality of work as per approved specifications for achieving the intended performance rests with the field team of Executive Engineer, Deputy Executive Engineer and Assistant Executive Engineer/ Assistant Engineer. The Superintending Engineer shall be overall responsible for management of Quality System and Procedures for the works under his charge.

8.2 Responsibilities of the field staff

8.2.1 The broad responsibility of the staff and the Engineer-in-charge will be as under:-

(i) To ensure that materials duly approved by the competent authority are used in the work;

(ii) Wherever necessary the Executive Engineer shall approve the sources for respective materials;

(iii) Samples of materials shall be approved by the Executive Engineer;

(iv) To ensure that all the mandatory field and laboratory tests as laid down in the specifications are carried out at appropriate time and materials failing to conform to the required specifications are promptly rejected and removed from site;

(v) As far as practicable all tests on materials shall be carried out at the construction site in a field/Divisional laboratory, which shall be set up under the control of the Executive Engineer. An Assistant Executive Engineer/ Assistant Engineer of the Division with aptitude for testing shall be selected by the Executive Engineer for manning the laboratory. He shall be given training in the Central Laboratory to familiarize with the various tests, and then placed in charge of the field laboratory;

(vi) It will be incumbent upon the Executive Engineer to keep a watch over regular testing of materials before making payment at the stage of each running bill;

(vii) Samples for tests shall be taken mostly by the Assistant Executive Engineer/ Assistant Engineer, or some by the Deputy Executive Engineers. Samples for 10% of mandatory tests shall be collected by the Executive Engineer. 10% of the field tests shall be got done by the Executive Engineer in his presence;

(viii) A guard file shall be maintained at all work sites, with copies of all inspection reports to-date;

(ix) Inspection Register, Site Order Book, Record of tests, Hindrance Register, etc. shall be put up for entries and review to every inspecting officer;

(x) The inspecting officers of the rank of Superintending Engineer and above shall not confine themselves only to review of progress, co-ordination and

general matters, but shall also inspect the work from quality Assurance aspects;

(xi) The Executive Engineer and Superintending Engineer shall invariably review and sign the guard file of earlier inspections, Inspection Register, Site Order Book, Register of tests carried out, Hindrance Register etc.;

(xii) The Executive Engineer shall ensure that the Deputy Executive Engineers and Assistant Executive Engineer/ Assistant Engineers, as well as the contractor's supervisors in-charge are fully aware of the specifications and method of execution of any new/fresh item of work to be taken up in the next 2 weeks. The Deputy Executive Engineer/Assistant Executive Engineer/ Assistant Engineer/ Supervisor shall ensure that this important aspect is not overlooked.

8.3 Quality Assurance set up at Circle Level

8.3.1 The Quality Assurance team with the Superintending Engineer of the Circle as its head will comprise the Deputy Executive Engineer (along with his Assistant Executive Engineer/ Assistant Engineer for laboratory work), whose main job is quality assurance. In order that the role of the Deputy Executive Engineer (QA) is effective in the process of Quality Assurance, the following points are essential:

(i) The periodicity of visit of works should be such that the process control at various stages is possible;

(ii) There should be minimum delay between inspection of work and communication of inspection report to the field formation;

(iii) The Deputy Executive Engineer (QA) shall carry out his tasks in a work that relates operationally to the quality specifications and standards laid down for the work and to the control actions that can be applied to the construction process. Thus the Deputy Executive Engineer (QA) should assess those aspects which are important to the overall quality of the finished work.

8.3.2 The functions of the Quality Assurance team at Circle level are to check the compliance of Quality Assurance system by the field units and to guide the field engineers in quality related aspects of the work. For this purpose:

(i) The Deputy Executive Engineer (QA) shall carry out a minimum of 4 visits to works every month;

(ii) The Deputy Executive Engineer (QA) shall prepare his program and take approval of the Superintending Engineer. The program shall be sent to site in advance of inspection.

8.3.3 Such inspections by the QA team shall, however, not absolve the responsibility of the Assistant Executive Engineer/ Assistant Engineer/ Deputy Executive Engineer/Executive Engineer for accepting only quality work from the contractor.

8.3.4 On the basis of his observations with regard to the quality of works, general adherence to the quality assurance procedures and the standard of progress, the Deputy Executive Engineer (QA) shall submit an overall assessment report to the Superintending Engineer of the Circle. The Superintending Engineer shall comment on the report with minimum delay. The Assistant Engineer (QA) will then send the report to the Executive Engineer concerned for compliance.

8.4 Chief Engineer (QC) set up

8.4.1 The Chief Engineer (QC) shall have the overall responsibility of constantly reviewing the existing quality assurance procedures and updating them on the basis of feedback from the Quality Assurance teams.

8.4.2 Carry out investigations and enquiries with regard to quality related aspects for specific works.

CHAPTER – 9 MAINTENANCE OPERATIONS THROUGH CONTRACTS

9.1 BOQ Contracts

The Standard Operating Procedures as outlined in the previous chapters shall be applicable for maintenance of the rural road network in situations where maintenance works are outsourced through BOQ contracts.

9.2 Performance Based Maintenance Contracts

9.2.1 The contractor shall follow the Annual Calendar of Routine Maintenance activities as per Para 3.1.10 unless a different calendar to be adopted has been specified in the Contract document.

9.2.2 The inspections to be conducted by the contractor or by his authorized representative shall ensure that the Intervention Period for undertaking maintenance measures to control defects for adherence to the Performance Criteria for Defects shall be strictly observed as per the Contract Agreement.

9.2.3 Deputy Executive Engineer/ Assistant Executive Engineer/Assistant Engineer shall be immediately reported about closure of road/obstruction due to any of the following reasons

(a) Over toping/breach
(b) Land slides
(c) Earth quakes
(d) Accident
(e) Any other reason such as dead animals, trees etc.

9.2.4 Incase, road is breached or blocked the contractor shall take following action

(a) Immediate report of the road breach/blocked will be made to Deputy Executive Engineer/ Assistant Executive Engineer/Assistant Engineer. The following points will be included in the reports:
    (i) Name of the road
    (ii) Location of the breach/blockade
    (iii) Length and nature of the breach/blockade
    (iv) Date and time of occurrence
    (v) Assessment of the assistance in the form of men and material required.
(b) "Road closed" boards and "Diversions" boards shall be fixed on both sides at 60 m distance in advance of the hazard.
(c) Labour shall be deputed to guide the traffic to prevent any accident till such time that alternate arrangements are made by the department.

9.3 Safety of Workers and Road Users during Maintenance

9.3.1 In the implementation of maintenance operations the contractor shall ensure safety of workers and road users as outlined in Para 5.1.

Dr. K.S. JAWAHAR REDDY,
Principal Secretary to Government.

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